

Application Serial No. 09/684,383  
Amendment dated 29 July 2003  
Reply to Office Action mailed 29 May 2003

**REMARKS**

The amendments to the specification are made to correct minor typographical errors, and do not represent the addition of new matter.

Claim 24 has been amended to insert the sequence identifier and to specify the position of the seven conserved cysteines as shown in Figure 1 with reference to the sequence set forth in SEQ ID NO:2 or 4. Claim 25 has been amended to more clearly define the nature of the mature proteins, i.e., a protein starting with one of amino acids 217-240 and ending with amino acid 352. Claim 25 has further been amended to delete reference to proteins having conservative amino acid substitutions. Claim 27 has been amended to correct a typographical error. Claim 29 has been amended to more clearly specify the region of the proteins containing the seven conserved cysteine residues as shown in Figure 1 with reference to the sequence set forth in SEQ ID NO:2. Claim 29 has further been amended to delete reference to proteins having conservative amino acid substitutions. Claim 30 has been amended to set forth the term for the abbreviation BMP.

It is submitted that none of these amendments constitute new matter, and their entry is requested.

In reviewing the filing receipt for correctness, Applicants have discovered an error which originated in the Declaration and Power of Attorney which was prepared for the parent application. This Declaration and Power of Attorney incorrectly identified one of the parent applications as U.S. Serial No. 08/482,557. The correct parent application should be U.S. Serial No. 08/482,577 as set forth in the first paragraph of the application as amended in the previous amendment. Applicants are in the process of preparing a Substitute Declaration to indicate the correct application numbers and will submit it as soon as it has been executed and received by the undersigned.

Claims 24-34 are pending in the application.

The Examiner has maintained the rejection of claims 24-28 and 29-34 under 35 U.S.C. § 112, first paragraph, for lack of written description, and apparently for lack of enablement in light of her citation of the *In re Wands* case and undue experimentation, both of which relate to enablement and

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not written description. It is submitted that the amended claims obviates this rejection to the extent that it may have been properly made.

Specifically, in the written description aspect of this rejection, the Examiner focuses on the part of the specified sequences which correspond to the mature protein. As made clear in claim 25, the mature protein starts with one of amino acids 217 through 240 and ends with amino acid 352. Thus, the mature protein specifically begins with residue 217, or residue 218 or residue 219, etc. up to residue 240. The fact that the mature peptide could begin with any one of the residues 217-240 is fully described in the specification at page 4, last line - page 5, line 2 and page 5, lines 13-17. This description in the specification clearly shows that Applicants were in possession of the claimed invention. The Examiner also makes comments concerning the terms "mature protein" and "essentially." However, it is submitted that these comments are not appropriate, since the claim specifically defines the mature protein by the starting and ending residues and the word "essentially" is not used in the claims.

In the enablement aspect of this rejection, the Examiner raised the issue of the location of the cysteine residues with respect to claim 24. Claim 24 has been amended to specify the location of the seven conserved cysteines with respect to SEQ ID NO:2. It is submitted that the amendment of claim 24 obviates this aspect of the rejection. Also as detailed in the previous amendment, the proteins of the claims all share the following attributes: (1) they have mitogenic and/or differentiation-inductive activity; (2) they are encoded by the nucleic acids recited in parts (a) - (c) or by nucleic acids which hybridize under stringent hybridization conditions with the nucleic acids recited in parts (a) and (b); and (3) they all contain seven conserved cysteine residues for which their location or the region containing them are specified in the claims. The hybridization is an important attribute which cannot be overlooked, as is the attribute of seven conserved cysteine residues and their position with respect to the sequence identifiers set forth in the claims. The claims do not encompass any proteins which do not contain seven conserved cysteine residues and which are encoded by nucleic acids which do not hybridize to the nucleic acids of parts (a) or (b) under stringent conditions. Applicants note that the language of claim 24 has been drafted in a manner to

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be consistent with the language of claim 1 of the parent application Serial No. 09/218,176, which the present Examiner allowed and which has matured into U.S. Patent No. 6,171,584.

In addition in the enablement aspect of this rejection, the Examiner also raised the issue of whether protein sequences containing conservative amino acid substitutions was enabled. Claims 25 and 29 have been amended to delete the objected language. It is submitted that the amendment of claims 25 and 29 obviates this aspect of the rejection.

Furthermore, in *In re Wright*, 27 USPQ 2d, 1510 (Fed. Cir. 1993), the Federal Circuit made clear that the PTO has the burden of providing a reasonable explanation of why the specification does not enable. There must be some reason to doubt the objective truth of the specification statements. *In re Marzocchi*, 169 USPQ 367 (CCPA 1973). Applicants submit that the Examiner has not provided acceptable evidence which is inconsistent with the objective enablement of the specification. Since the Examiner has not presented any scientific evidence or reasons to doubt the objective enablement of the specification with respect to the now claimed proteins, it is submitted that a proper case for lack of compliance with the enablement provision of 35 U.S.C. §112, first paragraph has not been established. In addition, the mere citation of the *Wands* case and the listing of factors to be considered with no analysis of the factors does not comply with the Patent Office's guidelines for such rejections.

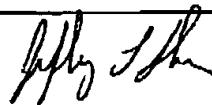
In view of the above remarks and the amendments to the claims, it is submitted that claims 24-28 and 29-34 fully comply with the requirements of 35 U.S.C. § 112, first paragraph. Withdrawal of this rejection is requested.

Claims 24-34 were rejected under 35 U.S.C. § 112, second paragraph as indefinite. The claims have been amended to specify the sequence identifier, provide proper antecedent basis, specify the position or the region of the seven conserved cysteines and to set forth the term for BMP. It is submitted that these amendments obviate this rejection, and its withdrawal is requested.

In view of the above amendments and remarks, it is believed that the claims satisfy the requirements of the patent statutes and are patentable over the prior art. Reconsideration of the

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instant application and early notice of allowance are requested. The Examiner is invited to telephone the undersigned if it is deemed to expedite allowance of the application.

RESPECTFULLY SUBMITTED,					
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